

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TRW AUTOMOTIVE US LLC,
Petitioner,

v.

MAGNA ELECTRONICS INC.,
Patent Owner.

Case IPR2014-00869
Patent 8,405,726 B2

Before JAMES P. CALVE, MICHAEL J. FITZPATRICK, and
BARRY L. GROSSMAN, *Administrative Patent Judges*.

GROSSMAN, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

TRW Automotive US LLC (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 1, 6, 7, 9–14, 16–18, 28–30, 33, 37–42, 45–49, 52–60, and 65 of U.S. Patent No. 8,405,726 B2 (“the ’726 patent”). Paper 1 (“Pet.”). Patent Owner, Magna Electronics Inc. (“Patent Owner”), filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 6(b)(4). We review the Petition under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

Upon consideration of the Petition and Preliminary Response, we determine that the information presented does not show that there is a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of any of the challenged claims. Accordingly, we deny the Petition and do not institute an *inter partes* review of the ’726 patent.

A. Related Proceedings

TRW states that the ’726 patent is involved in a pending district court case, titled *Magna Electronics Inc. v. TRW Automotive Holdings Corp.*, No. 1:13-cv-00324 (W.D. Mich. 2013). Pet. 3.

B. The ’726 Patent

The ’726 patent is titled “Vehicle Accessory System.” Figure 6 from the ’726 patent, reproduced below, shows the basic components in one embodiment of the disclosed accessory system. The accessory system in the ’726 patent attaches to the interior of windshield 12 of a vehicle. Ex. 1002, Abstract. The system includes a mounting element and module 10 for the accessory. *Id.*

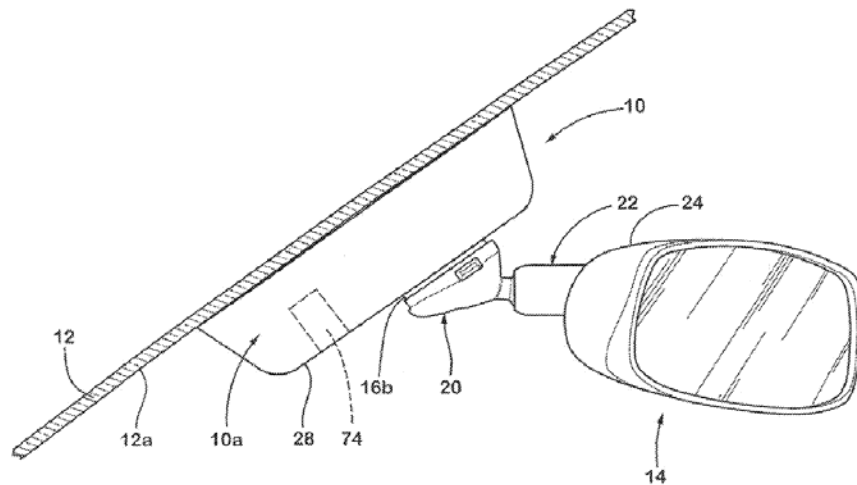


Figure 6 is a side elevation of accessory module 10 mounted to windshield 12, with a rearview mirror mounted to the module.

A mounting element attaches to the windshield, and a module for an accessory attaches to the mounting element. *Id.*, Abstract. In all of the challenged claims, the accessory is a camera. *See, e.g., id.* at col. 51, l. 41. The module orients the field of view of the camera. *Id.*, Abstract. In addition to a camera or other accessory, an interior rearview mirror assembly also may be attached to the mounting element. *Id.* In order to illustrate and describe the multiple disclosed embodiments, the '726 patent includes 68 drawings, many of which include multiple sub-drawings, such as Figure 68, which has six sub-drawings labelled 68A–68F; and 51 columns of text. Petitioner directs us to Figures 66–68, which Petitioner asserts are relevant to the challenged claims. Pet. 7–8. Figure 68A and Figure 68B are reproduced below.

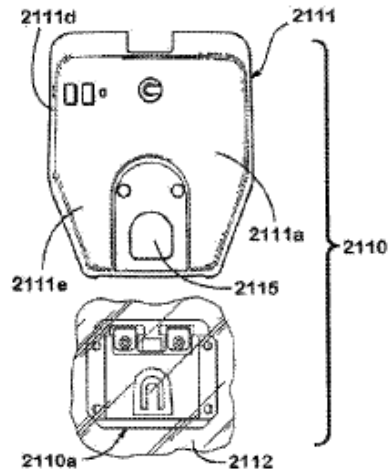


Figure 68A

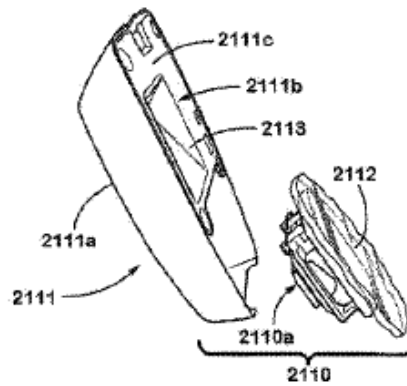


Figure 68B

Figures 68A and 68B are plan and perspective views, respectively, of accessory module 2110, accessory housing 2111, and mounting module 2110a.

As shown above, windshield mounted accessory module 2110 includes mounting module 2110a, mounted or secured to an interior surface of a windshield (not shown), and accessory housing 2111, mounted to mounting module 2110a. Ex. 1002, col. 43, ll. 30–35. Accessory housing 2111 includes casing 2111a and cover plate 2111b. *Id.* at col. 43, ll. 35–36. Cover plate 2111b defines cavity 2113, which is recessed within casing 2111a. *Id.* at col. 43, ll. 48–49. Accessory housing 2111 includes a camera or image sensor (not shown), which is positioned within housing 2111 and aligned with an aperture or opening in cavity 2113 of cover plate 2111b. *Id.* at col. 43, ll. 49–53. Independent claim 1 requires the housing to have a wedge-shaped recess that tapers from the vehicle windshield. *Id.* at col. 51, ll. 45–49. Independent claims 28 and 40 require the recess in the housing to taper, but do not require a wedge-shape. *Id.* at col. 54, ll. 33–37; col. 56, ll. 49–53. Independent claims 33 and 47 require a recess, but do not specify the shape. *Id.* at col. 55, ll. 32–33; col. 57, ll. 48–49. When assembled and

mounted at the windshield, the camera of accessory module housing 2111 is oriented in a generally horizontal position for viewing through aperture 2113a and capturing an image occurring generally in front of the vehicle. *Id.* at col. 44, ll. 31–36.

C. Illustrative Claim

Among the challenged claims, claims 1, 28, 33, 40, and 47 are independent claims. All of the challenged claims relate to “[a]n accessory system for a vehicle.” *See, e.g.*, Ex. 1002, col. 51, l. 20. Claim 1, reproduced below, is illustrative of the claimed invention:

1. An accessory system for a vehicle, said vehicular accessory system comprising:

a mounting element;

wherein a first side of said mounting element comprises an attachment portion for attachment of said mounting element at a vehicle windshield of a vehicle equipped with the accessory system;

wherein, at least when said mounting element is attached at the vehicle windshield, a module is mounted at a second side of said mounting element that opposes said first side;

wherein said module comprises a housing having a windshield-facing side that faces towards the vehicle windshield when said module is mounted at said second side of said mounting element attached at the vehicle windshield;

wherein said housing of said module has a cabin-facing side that faces away from the vehicle windshield towards the interior cabin of the equipped vehicle when said module is mounted at said second side of said mounting element attached at the vehicle windshield;

wherein a camera is disposed in said housing between said windshield-facing side of said housing and said cabin-facing side of said housing;

wherein said camera comprises an imager and a lens;

wherein said windshield-facing side of said housing comprises a generally wedge-shaped recess:

wherein, with said module mounted at said mounting element attached at the vehicle windshield, said wedge-shaped recess tapers from the vehicle windshield; and

wherein said camera, with said module mounted at said mounting element attached at the vehicle windshield, views through the vehicle windshield via said wedge-shaped recess.

D. References Relied Upon

Petitioner relies upon the following prior art references:

Reference	Date	Exhibit Number
Ponziana, U.S. Pat. No. 6,066,933	Issued May 23, 2000	Ex. 1004
Kakinami, U.S. Pat. No. 5,096,287	Issued Mar. 17, 1992	Ex. 1005
Kuehnle, U.S. Pat. No. 6,392,218	Issued May 21, 2002	Ex. 1006
Blank, U.S. Pat. No. 5,576,687	Issued Nov. 19, 1996	Ex. 1007

E. The Asserted Grounds

Petitioner asserts the following grounds of unpatentability under 35 U.S.C.

§ 103:

Claim(s) Challenged	Statutory Basis	References
1, 6, 7, 9–14, 17, 18, 28–30, 33, 37–41, 45–48, 52–60, and 65	§ 103(a)	Ponziana Kakinami Kuehnle
16, 42, and 49	§ 103(a)	Ponziana Kakinami Kuehnle Blank

II. ANALYSIS

A. Real Parties In Interest

In accordance with 37 C.F.R. § 42.8(b)(1), Petitioner identified “TRW

Automotive U.S. LLC of Farmington Hills, Michigan” as the sole real party in interest. Pet. 2.

Patent Owner asserts that Petitioner has “has made statements that call into question the true identities” of the real parties in interest, as required by 35 U.S.C. § 312(a)(2). Prelim. Resp. 7. According to Patent Owner, Petitioner “muddies the issue” by identifying “TRW Automotive Holdings Corp.” and “TRW Vehicle Safety Systems Inc.” as co-defendants in the related litigation identified by Petitioner and cited in Section I (A), above. Patent Owner also asserts that TRW Automotive Holdings Corp. is the ultimate parent corporation of Petitioner TRW Automotive US LLC and “undoubtedly exhibits a significant measure of control over TRW Automotive U.S. LLC.” *Id.* According to Patent Owner, the fact that the Annual Report of Petitioner’s parent corporation discusses Petitioner’s financial position and operating results “suggests a tight financial integration” between the two companies. *Id.* at 8. Patent Owner fails to state, however, whether it is arguing that both TRW Automotive Holdings Corp. *and* TRW Vehicle Safety Systems Inc. are real parties in interest, or whether it is arguing that only Petitioner’s parent company, TRW Automotive Holdings Corp., is a real party in interest. We address below the merits of Patent Owner’s assertions for both companies.

A petition for *inter partes* review may be considered only if, *inter alia*, “the petition identifies all real parties in interest.” 35 U.S.C. § 312(a)(2). The Office Patent Trial Practice Guide provides guidance regarding factors to consider in determining whether a party is a real party in interest. 77 Fed. Reg. 48,756, 48,759–48,760 (Aug. 14, 2012). Considerations may include whether a non-party “funds and directs and controls” an IPR petition or proceeding. *Id.* at 48,760. Additional relevant factors include: the non-party’s relationship with the petitioner;

the non-party's relationship to the petition itself, including the nature and/or degree of involvement in the filing; and the nature of the entity filing the petition. *Id.* Generally a party does not become a "real party-in-interest" merely through association with another party in an unrelated endeavor. *Id.* A party also is not considered a real party in interest in an *inter partes* review solely because it is a joint defendant with a Petitioner in a patent infringement suit or is part of a joint defense group with a Petitioner in the suit. *Id.*

Whether a non-party is a "real party-in-interest" to an *inter partes* review proceeding "is a highly fact-dependent question." *Id.* at 48,759. There is no "bright line test." *Id.* Courts invoke the term "real party-in-interest" to describe relationships and considerations sufficient to justify applying conventional principles of estoppel and preclusion. *Id.*

The non-party's participation with a Petitioner may be overt or covert, and the evidence may be direct or circumstantial, but the evidence as a whole must show that the non-party possessed effective control over the Petitioner from a practical standpoint. *Zoll Lifecor Corp. v. Philips Electronics North America Corp.*, IPR2013-00609, Paper 15, 10 (PTAB March 20, 2014). Accordingly, we look to the evidence on which Patent Owner relies to determine the fact dependent issue of whether TRW Automotive Holdings Corp. and TRW Vehicle Safety Systems Inc. are real parties in interest in this proceeding.

Patent Owner speculates (Prelim. Resp. 7–8) about what the evidence "undoubtedly exhibits" or "suggests" concerning the relationship of Petitioner to its parent corporation, TRW Automotive Holdings Corp. This speculation is based on general evidence of a parent/subsidiary relationship in a required Annual Report (Form 10-K) submitted to the U.S. Securities and Exchange Commission (Ex. 2002). The fact the this Annual Report states generally that the parent

company “conduct[s] substantially all of [its] operations through subsidiaries” (Ex. 2002, 2) is not persuasive or sufficient evidence to establish “an involved and controlling parent corporation representing the unified interests of itself and Petitioner,” as found in *Zoll*. IPR2013-00609, Paper 15, 12.

In *RPX Corp. v. Virnetx, Inc.*, IPR2014-00171, Paper 52 (PTAB June 23, 2014),¹ the Board discussed a number of factors to determine whether the petitioner RPX was a proxy for a non-party. Those factors include whether the petitioner is compensated by the non-party for filing the petition; whether the petitioner was authorized, explicitly or implicitly, by the non-party to file the petition or to represent the non-party in the *inter partes* review; and whether the petitioner is a “nominal plaintiff” with “no substantial interest” in the IPR challenge. *Id.* at 7–10. Unlike the facts in *RPX*, based on the record before us, there is no persuasive evidence that Petitioner is acting as a proxy for TRW Automotive Holdings Corp.

Patent Owner has not directed us to any evidence establishing a real party in interest relationship between Petitioner and TRW Vehicle Safety Systems Inc. other than Petitioner’s identification of the company as “related” and as a co-defendant in a lawsuit. In *Denso Corp. v. Beacon Navigation GmbH*, IPR2013-00026, Paper No. 34, 10–11 (PTAB March 14, 2014), the Board determined that the mere fact that parties are co-defendants or concurrent defendants in litigation does not make them real parties in interest. In *Denso*, as here, there was no persuasive evidence that the non-party engaged in strategic planning, preparation, and review of the *inter partes* review petition. Patent Owner’s speculation

¹ In *RPX*, the parties submitted a proposed redacted version (Paper 52) of the Board’s decision. In Paper 53, the Board entered the redacted decision and ordered that the redacted decision (Paper 52) would be available to the public.

suggesting that TRW Vehicle Safety Systems Inc. is a real party in interest in this proceeding has no persuasive evidentiary support.

Petitioner's identification of the two other TRW entities as "related to Petitioner" (Pet. 3) does not contradict Petitioner's identification of the sole real party in interest in this proceeding. Patent Owner's speculation about the motives of Petitioner, i.e., that Petitioner "appears to be attempting to evade the estoppel effect" (Prelim. Resp. 8), also is unpersuasive.

Accordingly, based on the evidence before us, Patent Owner fails to establish that either TRW Automotive Holdings Corp. or TRW Vehicle Safety Systems Inc. is a real party in interest in this proceeding.

B. Statutory Bar Under 35 U.S.C. § 315(a)(1)

Patent Owner asserts that the Petition is barred under 35 U.S.C. § 315(a)(1) based on a counterclaim filed in related litigation. Prelim. Resp. 13–15.

Based on Patent Owner's assertions in the Preliminary Response,² Patent Owner filed a complaint in March 2013 against Petitioner *but never served the complaint*. Prelim. Resp. 13. Before any complaint was served, Petitioner filed an Answer, which included a Counterclaim, asserting invalidity of the '726 patent. *Id.* According to Patent Owner, Petitioner filed its Petition in this proceeding after it filed its Answer and Counterclaim. *Id.*

² In the entire discussion of the asserted bar under Section 315(a)(1), Patent Owner does not cite to a single document or other evidence in support of its position. Patent Owner refers to "the complaint of March 2013" (Prelim. Resp. 13), but no such complaint is of record in this proceeding. We are aware that Patent Owner filed an Exhibit 2001 in this proceeding, which is an Answer and Counterclaim in a suit between the parties, but the Preliminary Response does cite to this Exhibit. It is Patent Owner's responsibility to explain specific evidence that supports its arguments, not the Board's responsibility to search the record and piece together evidence that may support Patent Owner's arguments.

Based on these asserted facts, Patent Owner argues that the so-called “counterclaim” was really the first *filed and served* document in the litigation between the parties, and, according to Patent Owner, it is this “counterclaim” that initiated the law suit. *Id.* at 14. Patent Owner argues the so-called “counterclaim” should be considered the beginning of a civil action challenging the validity of the patent, thus barring a subsequent petition under Section 315(a)(1). *Id.*

Section 315(a)(1) states that “[a]n inter partes review may not be instituted if, before the date on which the petition for such a review is filed, the petitioner or real party in interest filed a civil action challenging the validity of a claim of the patent.” Section 315(a)(3), however, provides a specific exemption for a counterclaim. Section 315(a)(3) states that “[a] counterclaim challenging the validity of a claim of a patent does not constitute a civil action challenging the validity of a claim of a patent for purposes of this subsection.” Thus, the issue presented is whether the counterclaim filed by Petitioner is a “civil action,” under § 315(a)(1), or whether it is a counterclaim under § 315(a)(3).

Petitioner cites the related proceeding of *Magna Electronics Inc. v TRW Automotive Holdings Corp.*, Case 1:13-cv-00324 (W.D. Mich.) Pet. 3. Exhibit 2001 submitted in this proceeding by Patent Owner is an Answer, including a Counterclaim, from this same case. According to the publicly available docket sheet from the court’s PACER records for this case, the complaint was filed on March 26, 2013, and an Answer and Counterclaim were filed on May 31, 2013. Ex. 3001, 6. The case then proceeded in normal fashion based on a complaint and Answer with a counterclaim. Neither the caption of the case nor the case number was changed because the named defendants filed an Answer and Counterclaim before the complaint was served. A first amended complaint was filed on June 21, 2013. *Id.* A Joint Status Report was filed on July 11, 2013 identifying Magna

Electronics, Inc. as “Plaintiff” and identifying the TRW entities as “Defendant.” Ex. 3002, 1. The Joint Status Report also refers to the “counterclaims” asserted by the TRW entities. *Id.* Thus, the court and the plaintiff treated the Answer and Counterclaim as a counterclaim. Based on the evidence of record, there is no bar because a counterclaim is not a civil action pursuant to § 315(a)(3).

C. Claim Construction

In an *inter partes* review, “[a] claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b); *see also* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,764, 48,766 (Aug. 14, 2012) (*Claim Construction*); *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). “[W]hen interpreting a claim, words of the claim are generally given their ordinary and accustomed meaning, unless it appears from the specification or the file history that they were used differently by the inventor.” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *Id.*

Cooling Means

Petitioner proposes a specific construction for the phrase “cooling means to assist in cooling at least one electronic component housed in said housing,” which appears in claim 14. Pet. 5. Petitioner asserts that this phrase is a means-plus-function limitation and should be construed to cover the corresponding structure that is described in the Specification and equivalents thereof. *Id.*, *citing* 35 U.S.C. § 112 ¶ 6. According to Petitioner, this phrase is limited to the structure of “a ventilation element, such as an air passage between the interior surface of the windshield and the component, or a surface of the component, near the

windshield,” as described in the ’726 Patent. *Id.*, *citing* Ex. 1002, col. 13, ll. 29–38.³

Patent Owner agrees that the “cooling means” term is construed under 35 U.S.C. § 112 ¶ 6, but asserts that the structure disclosed in the Specification is “an air passage” and equivalents thereof. Prelim. Resp. 21–22, *citing* Ex. 1002, col. 13, ll. 29–55.

Section 112, ¶ 6 allows a patentee to express a claim limitation as “a means or step for performing a specified function without the recital of structure, material, or acts in support thereof.” Section 112, ¶ 6 also provides that claim limitations expressed in this manner “shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” The use of the term “means,” as in claim 14 of the ’726 patent, triggers a rebuttable presumption that § 112, ¶ 6 governs the construction of the claim term. *Inventio AG v. ThyssenKrupp Elevator Americas Corp.*, 649 F.3d 1350, 1356 (Fed. Cir. 2011). Here, it is clear that § 112, ¶ 6 governs. We construe the function of a means-plus-function limitation to include the limitations contained in the claim language, and only those limitations. *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1113 (Fed. Cir. 2002). The function recited in claim 14 is “to assist in cooling at least one electronic component housed in said housing.”

The structure disclosed in the written description of the specification is the corresponding structure only if the written description of the specification or the prosecution history clearly links, or associates, that structure to the function recited

³ Petitioner’s assertion is in accord with 37 C.F.R. § 42.104(b)(3) (“Where the claim to be construed contains a means-plus-function or step-plus-function limitation as permitted under 35 U.S.C. § 112(f), the construction of the claim must identify the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function.”)

in a means-plus-function claim limitation. *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997). Reviewing the Specification, we find clear and unambiguous reference to the structure for the “cooling means.”

The '726 patent discloses that it may be desirable to provide a ventilation element, such as a ventilation passage or air passage, between the interior surface of the windshield and the component or a surface of the component closest to the windshield, in order to cool the accessory using air flowing through the passage. Ex. 1002, col. 13, ll. 29–35. The Specification then states that “the accessory module of the present invention may include such a passageway along the interfacing surface against the windshield.” *Id.* at col. 13, ll. 35–39. Thus, the structure disclosed to assist in cooling at least one electronic component housed in the housing is a passageway in the accessory module along the interfacing surface of the accessory module against the windshield.

The Specification also describes additional, optional structures that may assist in cooling, such as fins on the surface of the accessory module or a fan. Ex. 1002, col. 13, ll. 37–48. Structural limitations from the written description that are unnecessary to perform the claimed function, however, cannot be imported into the claim. *Welker Bearing Co. v. PhD, Inc.*, 550 F.3d 1090, 1097 (Fed. Cir. 2008) (citing *Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1233 (Fed. Cir. 2001)). Thus, these optional structures, which are not necessary to perform the claimed function, are not part of the structure in claim 14.

Accordingly, for purposes of this Decision, and based on the record before us, the structure corresponding to the “cooling means” in claim 14 is a passageway in the accessory module along the interfacing surface of the accessory module against the windshield, and its equivalents.

“Imager”

Petitioner proposes that the claim term “imager,” which appears in all the challenged claims,⁴ should be construed to mean “a video camera, CMOS imaging array sensor, CCD sensor, or the like, with or without a lens, which may be a separate element.” Pet. 6. We note that the ’726 patent refers to an “image sensor or camera (preferably a video camera, such as a CMOS imaging array sensor, a CCD sensor or the like, such as the types disclosed in commonly assigned, U.S. Pat. Nos. 5,550,677; 6,097,023 and 5,796,094, which are hereby incorporated herein by reference).” Ex. 1002, col. 12, ll. 37–42.

Patent Owner asserts that Petitioner’s proposed construction violates “the broadest *reasonable* construction rubric and the doctrine of claim differentiation.” Prelim. Resp. 4. According to Petitioner, “the claimed imager of the ’726 patent must be distinct from a lens.” *Id.* at 22.

We have considered Petitioner’s and Patent Owner’s proposed constructions but determine that no express construction of the term “imager” is necessary for purposes of this Decision.

D. Asserted Grounds of Unpatentability

1. Obviousness Based on Ponziana, Kakinami, and Kuehnle

Petitioner asserts that “[c]laims 1, 6-7, 9-14, 17-18, 28-30, 33, 37-41, 45-48, 52-60, and 65 are invalid and unpatentable under 35 U.S.C. 103(a) as obvious over Ponziana (Ex. 1004) in view of Kakinami (Ex. 1005) and Kuehnle (Ex. 1006).” Pet. 11 (emphasis added). Thus, Petitioner appears to assert a single ground of unpatentability based on the combination of all three references against all the

⁴ See, e.g., claim 1, which includes the limitation “wherein said camera comprises an imager and a lens.” Ex. 1002, col. 51, l. 44.

challenged claims.⁵ Petitioner states that “[t]he primary reference is Ponziana,” which, according to Petitioner, “contains all of the limitations in each claim, except for certain details of the recess in the housing, which is nevertheless suggested by Ponziana, but not expressly taught.” *Id.* at 12. Petitioner also asserts, however, that the “housing recess shape limitations” are “clearly met” by Kakinami “*and/or*” Kuehnle. *Id.* (emphasis added).⁶ Here, Petitioner appears to be asserting three different grounds of unpatentability, based on either two or three references: (1) Ponziana, Kakinami, and Kuehnle; or (2) Ponziana and Kakinami; or (3) Ponziana and Kuehnle. Based on the ambiguous and inconsistent identification of the references and application of the references to the challenged claims, it is uncertain how the challenged claims are unpatentable in light of the references, as required by 37 C.F.R. § 42.104(b)(3), (4).

a. Ponziana

Petitioner states that Ponziana is the “primary reference” (Pet. 12), so we begin with an analysis of Ponziana. According to Petitioner, “Ponziana contains all of the limitations in each claim, except for certain details of the recess in the housing, which is nevertheless suggested by Ponziana, but not expressly taught.” *Id.* Petitioner admits that Ponziana does not expressly describe the shape of the recess in which the sensor sits.” *Id.*

Ponziana discloses a rain sensing system. Ex. 1004, col. 1, ll. 8–14. The general structure of the system is shown in Figure 3 from Ponziana, which is

⁵ See also, e.g., Petitioner’s discussion of independent claim 33, stating that “[i]n summary, Ponziana discloses, in combination with Kakinami *and* Kuehnle, all of the limitations from claim 33 of the ‘726 Patent.” Pet. 41 (emphasis added).

⁶ See also, e.g., Petitioner’s further discussion of independent claim 33, stating that “claim 33 is not inventive over the prior art forward-facing camera modules taught by Ponziana, Kakinami, *and/or* Kuehn.” Pet. 41 (emphasis added).

reproduced below.

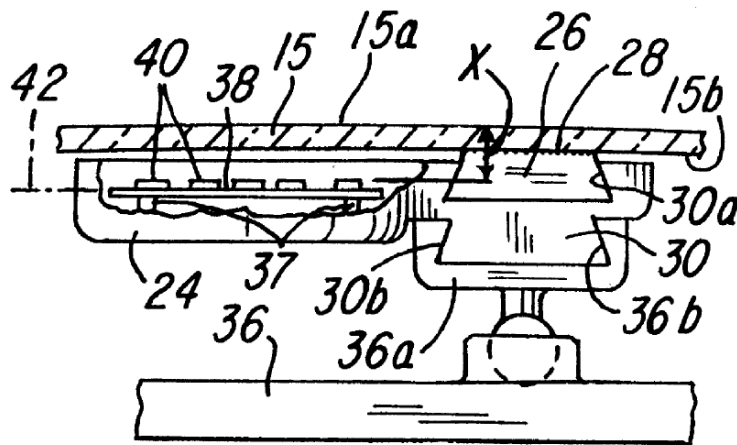


Figure 3 from Ponziana is a fragmentary sectional view showing rain sensor 24 mounted on mirror mount 26

As shown in Figure 3, sensor 24 is mounted on a first mounting structure 26, which, in turn, is adhered to inner surface 15b of windshield 15 using a suitable adhesive 28. Ex. 1004, col. 3, ll. 9–13. While the Ponziana disclosure is directed to a rain sensor, Ponziana states that a “CCD camera”⁷ may be provided as the sensor 24. *Id.* at col. 3, ll. 65–67.

Sensor 24 includes a housing 30. *Id.* at col. 3, ll. 14–15. Inside the housing is sensor circuit board 38, which includes a plurality of optical sensors 40. *Id.* at col. 3, ll. 24–26. As shown in Figure 3, circuit board 38 is mounted directly within housing 30 using suitable screws or fasteners 37.

Housing 30 includes a first side 31 (*see* Figure 4) having an angled wall 30a, which defines first mounting area 32 for receiving mounting structure 26. *Id.* at col. 3, ll. 17–20. Housing 30 also includes second side 33 (*see* Figure 4) defining

⁷ As explained in Patent No. 6,097,023, (Ex. 3003), incorporated by reference into the '726 patent (Ex. 1002, col. 12, ll. 37–42), a photosensing array may be a charge couple device (CCD) array of the type commonly utilized in video camcorders and the like. Ex. 3003, col. 8, ll. 40–42.

second angled wall 30b, which defines second mounting area 34⁸ for receiving and supporting base 36a of a mirror 36. *Id.* at col. 3, ll. 20–23. As shown in Figure 3 and as described in Ponziana, mounting area 32 and mounting area 34 define a generally trapezoidal or dove tail shape, which connect sensor 24 to windshield 15 and connect mirror 36 on sensor 24, respectively. *Id.* at col. 4, ll. 25–28.

b. Kakinami

As shown below in Figure 2a from Kakinami, Kakinami discloses a video camera mounted to an arm, which also supports the rear view mirror.

Fig. 2a

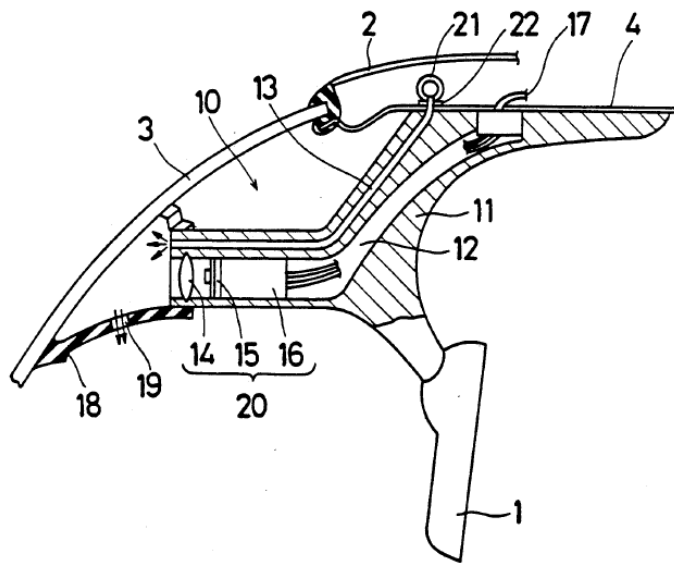


Figure 2a is a cross-sectional view of mounted camera.

⁸ In some places, Ponziana uses reference numeral 30 to refer to both the housing (*see, e.g.*, Ex. 1004, col. 3, ll. 15, 17, 20) and a second mounting area (*see, e.g., id.* at col. 4, ll. 15–16, 19, 21). Ponziana, however, initially refers to the second mounting area with reference numeral 34 (*see id.* at col. 3, l. 22), which appears to be the correct designation to avoid confusion with and redundancy with housing 30.

As shown above, video camera 20 is mounted in arm 11, which also supports rear view mirror 1. Ex. 1005, col. 2, ll. 15–16. Passage 12 in arm 11 is a passageway for electric cables connected to video camera 20. *Id.* at col. 2, ll. 17–19. Arm 11 also includes passage 13 for air. *Id.* The end portion of passage 12 towards front windshield 3 has a diameter large enough to accommodate video camera 20. *Id.* at col. 22–24.

Air passage 13 opens into boot 18. *Id.* at col. 2, ll. 36–37. Air passage 13 is directed towards front windshield 3. *Id.* at col. 2, ll. 37–38. One end of boot 18 is connected to arm 11 and the other end of boot 18 is pressed against windshield 3 so the video camera 20 is isolated from both the outside atmosphere and the inside atmosphere of the automobile. *Id.* at col. 2, ll. 39–44.

c. Kuehnle

As shown in Figure 2 from Kuehnle, reproduced below, Kuehnle discloses a rain sensor. Ex. 1006, col. 2, l. 64–col. 3, l. 4.

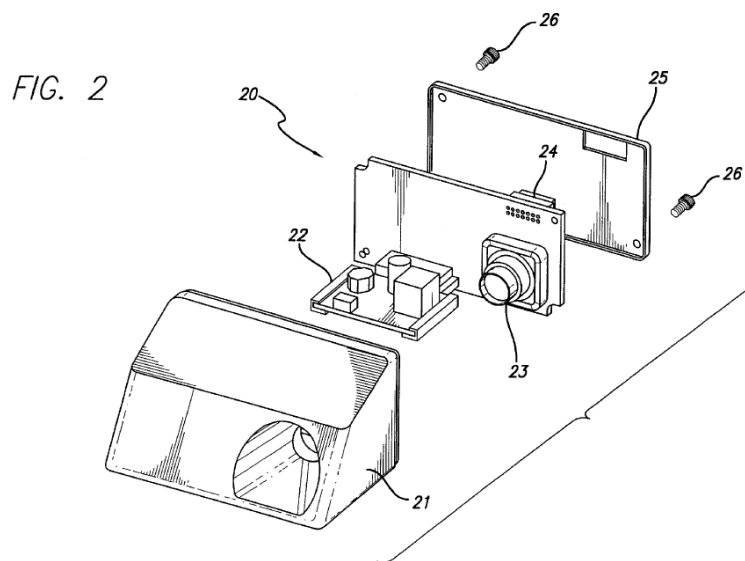


FIG. 2 is an assembly view of a rain sensor.

Sensor 20 is intended to be mounted near the upper, inner portion of a vehicle's windshield. *Id.* Optical detector 23 is enclosed by front housing member 21 and back housing member 25. *Id.* at col. 3, ll. 8–9.

Kuehnle is relevant to the issues raised by Petitioner in this proceeding primarily because of the shape of the housing, as discussed further below.

d. The Challenged Independent Claims

Against the background discussed above, we turn to the issue before us, which is whether the information presented in the Petition and the Preliminary Response shows that there is a reasonable likelihood that the Petitioner would prevail with respect to at least one of the claims challenged in the Petition.

Independent claim 1 requires the housing to have a *generally wedge-shaped, tapered recess*, with the camera viewing through the windshield via the recess. Independent claims 28 and 40 require the housing to have a *tapered recess* through which the camera views. Independent claims 33 and 47 require the housing to have a *recess* through which the camera views. While this recess and its shape have become the claim element on which the parties have focused their attention in this proceeding,⁹ the '726 patent disclosure does not emphasize this element. The parties have not directed us to a discussion in the Specification or to a particular reference numeral that identifies this recess. During prosecution of the application maturing into the '726 patent, the Applicant stated that support for the recess and its shape “can be found in Fig. 66 through 68 specially in Fig. 68A–E.” Ex. 1003, 9. As shown in Figures 68B and 68C, shown above, accessory housing 2111 includes casing 2111a. Cavity 2113 is defined by cover plate 2111b and is recessed within casing 2111a. Figures 68B and 68C appear to show that cavity

⁹ Neither Petitioner nor Patent Owner have proposed constructions for the terms “recess,” “tapered recess,” or “wedge-shaped.”

2113 is wedge-shaped and tapers as required in claim 1.

Based on the record before us, we are persuaded that Ponziana discloses a mounting element, module, housing, and camera, as recited in claim 1. We also agree with Petitioner that “Ponziana does not expressly describe the shape of the recess in which the sensor sits.” Pet. 12.

Petitioner asserts that Kakinami illustrates in Fig. 2a a generally wedge-shaped, tapered recess defined by boot 18 and windshield 3. Pet. 19, 21. Petitioner also asserts that Figure 2 of Kuehnle also suggests a generally wedge-shaped, tapered recess. *Id.* at 20, 21. Petitioner also asserts that, based on the apparent “cutout view” in Figure 3 of Ponziana, a tapered recess is “plainly visible” in Ponziana. *Id.* at 21. Petitioner relies on the Declaration of Homayoon Kazerooni, Ph.D. *E.g.*, Pet. 13, 19, 20, 26. We discuss Dr. Kazerooni’s Declaration in the following Section of this Decision.

As a rationale for the proposed modification of Ponziana, Petitioner asserts that the two secondary references “clearly demonstrate the obviousness” of using the well-known structural design principles of a wedge-shaped, tapered recess. Pet. 22. Petitioner also asserts that claim 1 “recites nothing more than the combination of old and familiar elements according to known configurations and methods, each performing the same function it had been known to perform, yielding predictable results.” *Id.* at 25. According to Petitioner, any housing structure in front of the camera lens “would necessarily taper outward from the camera in a ‘wedge’ shape so that the field of view from the lens would not be obstructed by the housing that secures the lens and the camera.” *Id.* at 26. Petitioner, however, cites no persuasive evidence to support this statement, nor does Petitioner explain why Petitioner concludes that the housing structure would “necessarily taper.” Based on this assertion, Petitioner concludes, without citation

of supporting evidence, that the proposed combination of prior art references would have been “obvious to try.” *Id.* Petitioner also relies on the Declaration of Dr. Kazerooni for evidentiary support of a rationale for the proposed combination of references. Pet. 26, citing Ex. 1008 ¶¶ 59–66. Dr. Kazerooni asserts that Kakinami mounts a camera directly with a boot 18 and indirectly with arm 11 to the windshield, whereas Kuehnle uses the camera housing itself as the mounting element to the windshield, and concludes that it would have been obvious “to combine the relevant teachings of Ponziana with Kakinami and/or Kuehnle.” Ex. 1008 ¶ 60. Dr. Kazerooni does not explain which “relevant teachings” of Kakinami and/or Kuehnle are being combined with Ponziana but instead states that Kakinami and Kuehnle disclose different ways of situating a camera in a module housing in relation to a rear view mirror and it would have been obvious “to combine Ponziana with Kakinami and Kuehnle since each of the three references pertains directly to a forward facing camera module located with or at a rear-view mirror mounting element.” *Id.* ¶¶ 61, 63.

Patent Owner takes a different view of the disclosures in the cited references. With respect to Kakinami, Patent Owner asserts that “boot 18 is not a ‘housing’ as claimed in the ’726 patent.” Prelim. Resp. 33. Patent Owner also asserts that the camera 20 is not disposed within the asserted wedge-shaped recess allegedly defined by boot 18 and windshield 3. *Id.* With respect to Kuehnle, Patent Owner states that the Petitioner’s interpretation of the references is speculative and is based on a view of the Kuehnle housing that Petitioner admits is “not separately illustrated.” *Id.* at 35. Patent Owner also asserts that the lines defining the “cutout view” in Figure 3 of Ponziana do not “impart structural features.” *Id.* at 30.

Independent claims 28 and 40 require the housing to have a *tapered recess* through which the camera views. Independent claims 33 and 47 require the housing to have a *recess* through which the camera views. While these claims differ in scope from claim 1, with respect to the shape of the recess, Petitioner asserts the same combination of two or three references asserted against claim 1 to assert that the claims 28,33, 40, and 47 also would have been obvious based on the cited references.

Petitioner bears the burden of establishing a reasonable likelihood of unpatentability of one or more claims. 37 C.F.R. § 42.108(c). It is Petitioner's obligation to state the precise relief requested for each challenged claim. 37 C.F.R. § 42.104(b). We decline to speculate on the combination of references asserted by Petitioner, that is, whether the asserted unpatentability is based on a combination of three references or two references, as discussed above. Based on the record before us, we are not persuaded that Petitioner has met its burden of establishing a reasonable likelihood of success in establishing that the challenged claims are not patentable. We are not persuaded that the various combinations of various features and teachings of references asserted by Petitioner would render obvious a recess as claimed or a camera located within the housing as claimed for the reasons articulated by the Patent Owner and summarized above.

We recognize that mounting elements, modules, housings, and cameras exist in the references cited by Petitioner. We also recognize that recesses of varying shapes and for varying purposes also exist in the cited references. The existence of common elements found in both the challenged claims and the references relied on by Petitioner, however, does not establish that the challenged claims would have been obvious. “[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in

the prior art.” *KSR Int’l v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). “[I]nventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.” *Id.* at 418–419. As stated by our reviewing court,

Obviousness requires more than a mere showing that the prior art includes separate references covering each separate limitation in a claim under examination. Rather, obviousness requires the additional showing that a person of ordinary skill at the time of the invention would have selected and combined those prior art elements in the normal course of research and development to yield the claimed invention.

Unigene Labs., Inc. v. Apotex, Inc., 655 F.3d 1352, 1360 (Fed. Cir. 2011) (internal citations omitted).

Petitioner also does not provide a rationale based on persuasive evidence or argument for why a person of ordinary skill would have chosen certain features from the cited references, omitted other features, and combined the selected features to yield the invention in the challenged claims. Petitioner does not explain how or why the teachings of the specific references would have been combined by a skilled artisan, which combination(s) of elements in specific references would yield a predictable result, or how any specific combination would operate or read on the asserted claims and render those claims obvious. *ActiveVideo Networks, Inc. v. Verizon Comm’ns, Inc.*, 694 F.3d 1312, 1327 (Fed. Cir. 2012).

Petitioner’s statements of general principles from the case law that a proposed combination is “nothing more than the combination of old and familiar elements according to known configurations and methods, each performing the same function it had been known to perform, yielding predictable results”

(Pet. 25¹⁰) are argumentative conclusions. These conclusions are not a substitute for a fact-based analysis of the proposed combination of references necessary to support the conclusions. We recognize that the obviousness inquiry does not ask “whether the references could be physically combined but whether the claimed inventions are rendered obvious by the teachings of the prior art as a whole.” *In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985) (en banc). Petitioner, however, fails to explain why a person of ordinary skill in the art would have combined elements from specific references *in the way the claimed invention does*. *ActiveVideo Networks*, 694 F. 3d at 1328 (citing *KSR*, 550 U.S. at 418).

We determine that Petitioner’s arguments do not provide the required articulated reasoning with rational underpinning based on the evidence to support the legal conclusion of obviousness. Based on the analysis above, the information presented in the Petition does not show sufficiently why it would have been obvious to combine Ponziana, Kakinami, and/or Kuehnle to arrive at and render obvious the specific invention recited in the challenged claims.

Dr. Kazerooni’s Declaration

Exhibit 1008 is a Declaration by Homayoon Kazerooni, Ph.D. Petitioner relies on Dr. Kazerooni’s Declaration for opinions and evidence to support Petitioner’s assertion that the challenged claims would have been obvious. *See, e.g.*, Pet. 11 (“The discussion below stands on its own weight, but also cites to Ex.1008 for supportive facts and reasoning from a perspective of one of ordinary skill in the art.”). Dr. Kazerooni states that he “prepared this Declaration in connection with my role as an expert witness.” Ex. 1008 ¶ 2. Dr. Kazerooni also states that he was “asked to read, analyze, and formulate opinions concerning the

¹⁰ Petitioner’s Declarant, Dr. Homayoon Kazerooni, repeats verbatim this same conclusory rationale. *See* Ex. 1008 ¶ 63.

‘726 Patent.’ *Id.*

Because Dr. Kazerooni’s Declaration is a near verbatim recitation of the information in the Petition, Dr. Kazerooni’s Declaration suffers from the same deficiencies described above for the Petition and does not provide any additional facts, evidence, or analysis to support assertions in the Petition. Dr. Kazerooni opines that the design of mounting structures for electronics “is usually a very routine matter of combining existing design concepts.” *Id.* ¶ 27. Dr. Kazerooni outlines his opinion of the basic design process, which is to identify the support structure; identify the electronic system; and build a linkage to retain the electronic system in the support. *Id.* Essentially, Dr. Kazerooni takes the position that this design process is “very routine” because, in his opinion, one need only identify the problem and then solve the problem. This generic opinion fails to relate his opinion to the specific technology of the ’726 patent or to differing levels of ordinary skill that Dr. Kazerooni defines in Paragraphs 10 and 39 of his Declaration.¹¹

Dr. Kazerooni also opines that “[a]ny housing structure in front of the camera lens would necessarily taper outward from the camera in a ‘wedge’ shape so that the field of view from the lens would not be obstructed by the housing that secures the lens and the camera.” *Id.* ¶ 64. Again, Dr. Kazerooni does not provide

¹¹ In Paragraph 10, Dr. Kazerooni states that a person having ordinary skill in the art (“PHOSITA”) “would have had at least the qualifications of or equivalent to an undergraduate degree in *mechanical engineering* with at least two years of work *adapting computer vision systems for mounting in automobiles.*” Ex. 1008 ¶ 10 (emphasis added). In paragraph 39, Dr. Kazerooni states different qualifications, opining that a PHOSITA “would have had at least the qualifications of or equivalent to either [an] undergraduate degree in *electrical engineering or mechanical engineering with course work or research in automobile accessory systems* with at least two years of work *making automobile accessory systems.*” *Id.* ¶ 39 (emphasis added).

any facts, data, or analysis to support this opinion. Declarations expressing an opinion of an expert must disclose the underlying facts or data upon which the opinion is based. 37 C.F.R. § 42.65 (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”). In fact, Kakinami appears to disclose a housing in Figure 2a that does *not* include a wedge shape. Instead, Dr. Kazerooni states that the wedge-shaped recess is formed by a separate boot 18 that is connected to the end of an arm 11 of the housing. Ex. 1008 ¶ 50. Kakinami discloses that boot 18 defines a closed chamber with the windshield 3 in order to isolate camera 20 from the outside atmosphere and the inside atmosphere of the automobile and boot 18 includes an opening 19 through which air can pass. Ex. 1005, 2:39–49; Fig. 2a.

It also is unclear exactly what features of Kakinami and Kuehnle are being combined with Ponziana and in what manner. It is unclear whether Dr. Kazerooni is combining teachings and features of both Kakinami and Kuehnle with Ponziana in some unspecified manner, or whether Dr. Kazerooni is applying teachings and features of Kakinami or Kuehnle alternatively with Ponziana in some unspecified manner. The lack of clarity in the manner in which Dr. Kazerooni is combining features and teachings of Ponziana, Kakinami, and Kuehnle makes Dr. Kazerooni’s Declaration of very limited probative value. Nor has Dr. Kazerooni provided adequate reasoning supported by rational underpinning for combining the various teachings and features of the prior art to render obvious the claimed subject matter.

e. The Challenged Dependent Claims

Our analysis above addresses independent claims 1, 28, 33, 40 and 47 and determines, for purposes of this proceeding, that the information in the Petition does not show sufficiently that these claims are unpatentable. The remaining challenged claims depend from one of the independent claims. Petitioner does not

provide persuasive additional arguments or additional evidence directed to the dependent claims that cures the deficiencies discussed above concerning the independent claims.

III. CONCLUSION

For the foregoing reasons, based on the information presented in the Petition, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in establishing that any of claims 1, 6, 7, 9–14, 16–18, 28–30, 33, 37–42, 45–49, 52–60, and 65 of the '726 patent are unpatentable. Accordingly, we deny the Petition and do not institute an *inter partes* review of claims 1, 6, 7, 9–14, 16–18, 28–30, 33, 37–42, 45–49, 52–60, and 65 of the '726 patent.

IV. ORDER

For the reasons given, it is

ORDERED that the Petition challenging the patentability of claims 1, 6, 7, 9–14, 16–18, 28–30, 33, 37–42, 45–49, 52–60, and 65 of U.S. Patent No. 8,405,726 B2 is *denied*.

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Patent 8,405,726 B2

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